

Case Statement – Protection of Upstate Water Resources, Water Supply of Greenwood, and Public Health and Environment: The Lake Conestee Dam Project

Statement of Need – A very serious looming environmental threat has been recognized in the condition of the 126-year old Lake Conestee Dam (LCD), on the Reedy River, south of Greenville. This historic structure holds back millions of tons of potentially toxic sediment filling the old lake. The Reedy flows into Lake Greenwood, which provides the potable water supply for citizens and industry of Greenwood County.

- Lake Conestee (LC) was created by a dam built in 1892 to power Reedy River Factory (Conestee Mill). The resulting 140-acre millpond is now nearly filled with roughly 2.8 million tons of contaminated sediments.
- LC has been the receptor for contaminants from hundreds of industrial sources going back to the 1890s, from throughout the 65-square mile watershed upstream, which includes most of old industrial Greenville.
- Failure of the LCD could also result in damage to or closure of the Conestee Road bridge (ca. 1958) over the Reedy River, located 700 feet downstream. This is a high-traffic volume state road essential to local commerce.
- Site assessment work completed from 2000-2012 confirmed LC sediments are significantly and extensively contaminated. As a result the sediments should not be disturbed, and should be kept in check behind the dam.
- Because of risks posed by the contaminated sediments in LC the dam is classified as a **Significant Hazard** structure. **The Lake Conestee Dam is absolutely not a dam that can be removed or allowed to fail.**
- A strong, secure, and durable Lake Conestee Dam, in excellent condition, and well-maintained, is critical to protecting Greenwood's water supply as well as downstream natural resources and private properties.

What has been done? – Acquisition of the Lake Conestee site and dam, contamination assessment, risk assessments, institutional controls, temporary repairs, dam assessment, development of Lake Conestee Nature Park, and long-term planning for emergency action and for dam rehabilitation / replacement.

- Conestee Foundation (CF), with support from SCDNR and SCDHEC, acquired LC and the LCD in 2000.
- Site assessment work completed 2000-2008 confirmed LC sediments are significantly and extensively contaminated. As a result sediments should not be disturbed, and should be kept in check behind the dam.
- The sediments of LC contain millions of pounds of potentially toxic metals, polycyclic aromatic hydrocarbons, pesticides, and PCBs. If not contained by the dam, these contaminants would flow downstream and would pose a serious threat to water supplies, natural resources, and private property assets downstream along the Reedy River, in lower Greenville and Laurens Counties, all the way to Lake Greenwood.
- Under SCDHEC oversight CF has demonstrated that contaminants in LC sediments do not pose a health threat to persons using recreational trails at Lake Conestee Nature Park. The sediment-filled lake is managed to minimize human contact with contaminants, and the park is managed to minimize risks to park patrons.
- Thanks to a grant provided by USEPA and SCDHEC, from 2011-2012 CF completed an assessment of the dam, emergency repairs, safety enhancements, and a limited study of repair alternatives.
- This work confirmed **LCD urgently needs major rehabilitation or replacement due to its age, deterioration of its stone masonry, accumulation of contaminated sediments upstream, and seepage of toxic metals through the dam.** Neither remediation of the sediments, nor removal of the dam are viable options.
- Dam inspections by both private engineering consultants and SCDHEC engineers confirm numerous significant defects and deficiencies of the LCD attributable to its age and condition. **An inspection by SCDHEC dam safety engineers in late 2016 determined the dam is in "POOR" condition.**
- The assessments and inspections of the dam also underscore the vulnerability of the dam to compromise by extreme flooding events from a highly urbanized upstream watershed, seismic activity, or acts of sabotage.
- If the dam fails, the Lake Conestee site and the downstream Reedy River could be re-classified as a Superfund site. This would have devastating economic impacts to the surrounding community, and interests downstream.
- Now, after over 18 years of close partnership with SCDHEC, USEPA, and other agencies, the CF is in full compliance with all requirements of all regulatory agencies.
- Still, **the LCD continues to gradually disintegrate, and its eventual failure is only a matter of time.**

Priority Actions – Dam Rehabilitation or Replacement to Assure Long-Term Care.

- In 2018, in partnership with SCDHEC, CF has engaged an expert dam engineering firm to perform a rigorous, independent, and objective review of all viable options for dealing with the LCD by conducting a "Final Pre-Design Study for the Rehabilitation and/or Replacement of the LCD." This study will identify the final solution for the LCD, intended to protect both Lake Conestee and downstream resources over a 100-yr performance period.
- Selection of this solution is the last step required prior to the final design and construction of the "new" LCD.
- **We are now at a critical point where we must rehabilitate or replace the Lake Conestee Dam. Timely action to mitigate this known threat will require state and federal agency support and leadership.**